

Environmental Prevention Strategies: *An Introduction and Overview*

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For many years, prevention strategies have been an important part of comprehensive efforts to reduce the harmful use of substances and related problems. Among prevention strategies, those best known to the general population, policymakers, and practitioners are the ones that target individuals for intervention and are designed to influence their attitudes, knowledge, skills, and behavior. Less well known are environmentally directed prevention strategies that seek to reduce or eliminate substance abuse and related problems by changing the overall context within which substance use occurs.

Individually Focused Strategies

Traditional, individually oriented strategies accept the environment and risks it imposes as given, and focus on enhancing individuals' abilities to resist temptations to use substances. These strategies provide information, skills training, and opportunities for personal development through a variety of programs, including school-based curricula, mentoring, and peer education and counseling. The goal of such efforts is to reduce the probability of substance abuse by changing characteristics of individuals. Much of the prevention to which youth are currently exposed falls into this category.

Environmentally Focused Strategies

Prevention aimed at the environment is based on the community systems perspective that views a community as a set of persons engaged in shared social, cultural, political, and economic processes (Holder, in press). This perspective takes into account the fact that individuals do not become involved with substances solely on the basis of personal characteristics. Rather, they are powerfully influenced by a complex set of factors in the environment, such as the rules and regulations of the social institutions to which they belong, the norms of the communities in which they live, the mass media messages to which they are exposed, and the accessibility of alcohol, tobacco, and illicit drugs. Because substance abuse is viewed as a product of the overall system, effective prevention requires making appropriate modifications to the community at large (Holder, in press). The purposes of environmental strategies are to (1) limit access to substances, (2) change the culture and contexts within which decisions about substance use are made without affecting availability, or (3) reduce the negative consequences associated with use.

Systemwide changes are most often brought about through public policies—laws, regulations, and formal rules—and community-level interventions. Examples of policies and other environmental prevention strategies include increases in excise taxes on alcohol and tobacco to raise their price, restrictions on the location and density of retail outlets, enforcement of laws against selling alcohol and tobacco to underage persons and serving alcohol to intoxicated persons, use of citizen surveillance and nuisance abatement statutes to dislocate drug dealers, restrictions on smoking and drinking alcohol in public places and private workplaces, and restrictions on advertising (see table 1).

This broad array of policies allows society to enact measures that influence how, when, where, and how much people use substances and the probability of negative outcomes. In addition to exerting controls on levels and patterns of use, environmental strategies can also help reduce problems by creating normative shifts in how people think about substance use. Policies are one mechanism through which society expresses what it values, what it tolerates, and what it disapproves. Once they are enacted, policies can help redefine what is considered appropriate use.

Advantages of Environmental Prevention Strategies

As a class, environmental strategies offer a promising complement to prevention strategies targeting individuals. Because they focus on changing the underlying contextual processes that contribute to substance use, they have the potential to generate larger effects than prevention aimed at individuals, and to do so relatively quickly, because they impact greater numbers of persons and may produce more sustainable results at lower costs.

Broader reach. Compared to individually focused prevention, which seeks to reduce individual risk by intervening and creating change one person at a time, strategies focused on the environment have the ability to reach entire populations and reduce collective risk (Holder, in press). Altering the community system may produce widespread small changes in behavior among large populations (including, but not limited to, heavy and addicted users) that result in substantial net benefits to society in terms of reduced problems (Wagenaar & Farrell, 1988).

More substantial effects. Prevention targeting the environment also offers the opportunity to produce larger reductions in risk by creating conditions that support the nonuse of illicit substances and responsible use of legal ones. Programs that target individuals for intervention without considering the environments in which those individuals live can find their effectiveness severely undercut by processes outside the individual that are inconsistent with no-use or responsible-use messages. For instance, programs that teach youth resistance skills may be undermined to the extent that young people are exposed to messages glamorizing alcohol use, can easily purchase alcohol, and perceive that there are no penalties associated with underage drinking. Substantial reductions in use are more likely to be achieved when environmental influences are consistent with and mutually

reinforcing of the formal prevention messages directed at individuals. ***In fact, while individually focused efforts such as education and skills- building programs tend to produce some effects on intervening variables (e.g., knowledge and attitudes) and to have inconsistent and weak effects on behavior, many environmental strategies have been shown to substantially reduce consumption and use-related problems, including traffic crashes, unintentional injuries, suicide, cirrhosis mortality, and assaultive offenses.***

More enduring effects. To the extent that the processes influencing substance use are successfully altered, environmental approaches have the potential for long-term, as well as short-term, effectiveness. Changes in the legal, economic, and social contingencies surrounding use may foster important shifts in attitudes that are less supportive of use. The synergistic effects of environmental barriers to use, coupled with widespread normative change, may result in the creation of a substantially changed system that offers fewer opportunities and inducements to use substances for current and future generations. Even if individually focused strategies are effective in creating lasting change in individuals because they fail to change the fundamental processes supporting use, they must be repeated for each new generation.

Ease of maintenance and cost-effectiveness. In addition to considerable potential effectiveness, environmental approaches have the benefits of being comparatively easy to maintain and perhaps less costly than strategies directed at individuals. Even when there are costs associated with implementation, monitoring, and political action, such costs may be considerably lower than those associated with education, service, and therapeutic efforts applied to individuals. When enforcement or regulation is a part of the environmental control, actual costs of such operations may be reduced by supplemental media efforts that increase the public's perceptions regarding the likelihood of apprehension and penalties and thus enhance the deterrent value of the strategy.

Environmental Prevention Strategies: *Evidence of Effectiveness*

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Strategies focused on the shared environment are appealing conceptually.

They are based on the fact that behavior is powerfully shaped by the environment;

They are designed to change the physical, legal, economic, and social processes of communities in ways that are associated with substance use;

They use public policies (laws, rules, regulations) and community-level interventions that can affect whole populations.

Table 1 gives examples of environmental policies designed to

1. limit access to substances;
2. influence the culture and contexts of use, and
3. prevent the negative health consequences of use.

Table 1. Examples of Environmental Policies for Alcohol, Tobacco and Illicit Drugs

Environmental Strategy	Alcohol	Tobacco	Illicit Drugs
Examples of environmental policies to limit access			
Purchase laws	Minimum legal drinking age for purchasing and consuming alcohol	Youth access laws prohibiting retail sales of tobacco to minors	Laws prohibiting possession and use
Price controls	Sales taxes; bans on drink discounts and other price specials	Excise taxes; bans on rebates after purchase	Using supply reduction efforts to drive up drug prices
Restrictions on retail sales or sellers (number, location, density, days and hours of sale)	Ordinances establishing minimum distance between outlets and schools and churches	Limits on the number of tobacco vendor licenses	Civil actions to eliminate places where drugs are sold (e.g., drughouse abatement); physical barriers to sales (gates, increased lighting)

Table 1—continued

Environmental Strategy	Alcohol	Tobacco	Illicit Drugs
Environmental policies to influence the culture and contexts of use			
Legal deterrence	Lower blood alcohol concentration for young drivers; administrative license revocation for driving under the influence	Fines for selling tobacco to minors; media advocacy efforts to increase vendors' perceptions of risk of apprehension	Use (drugs)-Lose (driver's license) laws for youth; workplace drug testing; asset forfeiture
Controls on advertising and promotion	Bans on alcohol sponsorship of sporting and cultural events; advertising restrictions	Surgeon General's warning on cigarette packs; restrictions on distribution of free samples and coupons	Public service announcements regarding hazards associated with drug use
Environmental policies to reduce negative consequences of use			
Measures that reduce consequences of excessive use	Safe rides for intoxicated patrons; nonbreakable drinking glassware	Designated nonsmoking areas to reduce nonsmokers' exposure to secondary smoke	Distribution of bleach for disinfecting drug paraphernalia
Substitution of less damaging products	Low alcohol beer	Low-tar and self-extinguishing cigarettes	Methadone maintenance

The most compelling argument for using environmental strategies is that *they work!*

Table 2 shows the range of effects that have been found as a result of a variety of environmental strategies.

Table 2. The Prevention Effects of Environmental Strategies

Environmental Strategy	Sales/ Use	Traffic Crashes	DWI	Violent Crime ¹	Suicide	Long-Term Health Consequences ²
Price controls	↗	↗	↗	↗ ³	↗	↗
Density restrictions	↗	↗		↗	↗	↗
Minimum purchase age laws	↗	↗		↗ ⁴	↗	
Impaired driving laws		↗	↗			
Restrictions on use	↗					
Selling/serving controls		↗	↗			
Counteradvertising	↗ ⁵					

¹ violent or assaultive offenses = rape,

Table 1—continued

robbery, assault, and homicide

² cancer or cirrhosis mortality

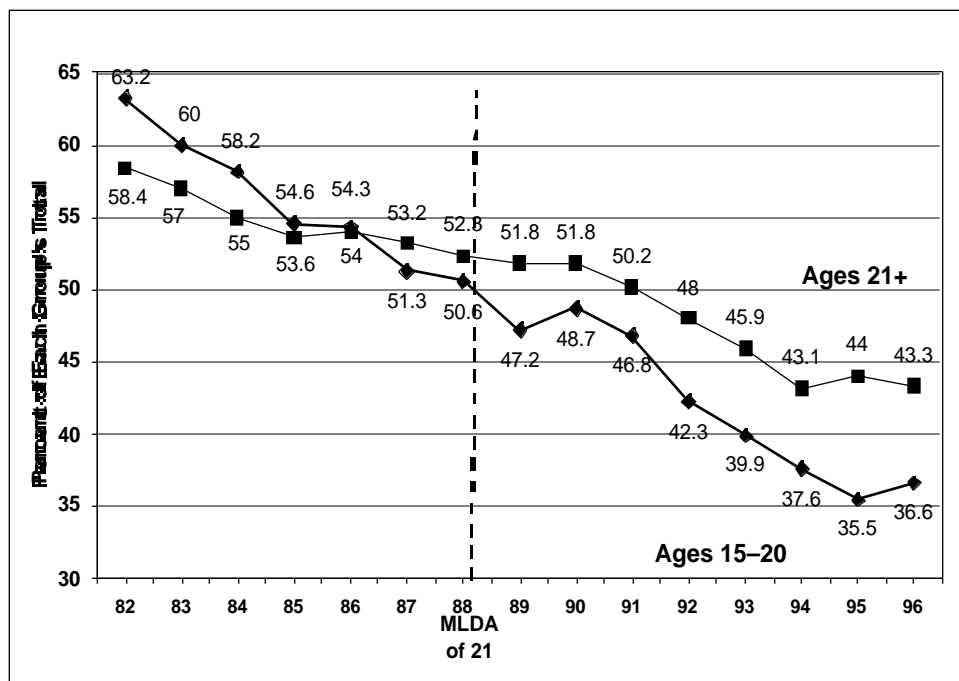
³ rapes and robberies

⁴ youth homicide

⁵ effects for tobacco only

Figures 1 and 2 show the lifesaving effects of one of the most comprehensive environmental changes -- raising the minimum purchase age (MLDA) for alcohol to 21 across the nation.

**Figure 1. Youth vs. adult motor vehicle fatalities:
Alcohol-related percent of each total**



**Figure 2. Cumulative estimated number of lives saved by
minimum drinking age laws, 1975-1996**

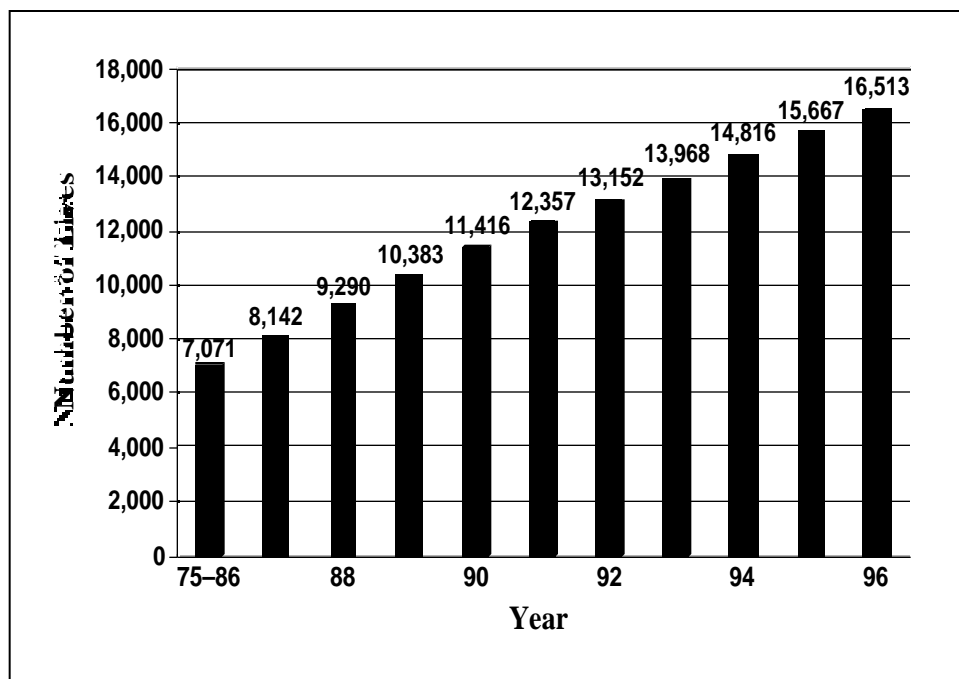
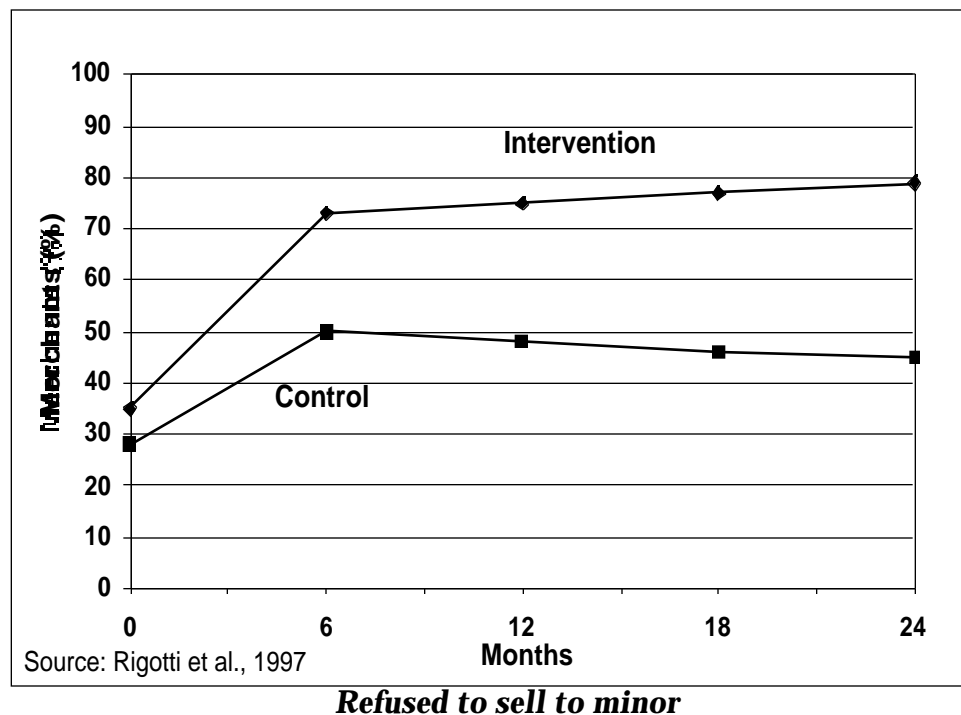


Figure 3 provides an example of the effects of other types of environmental approaches, such as increased enforcement. As can be seen in the figure, only about 35% of merchants refused to sell tobacco to minors before the enforcement intervention. Where enforcement occurred, 80% of merchants refused to sell to minors.

Figure 3. Enforcement of minimum purchase age laws—tobacco



These are just a few examples of the kinds of dramatic prevention effects that can result from the implementation of environmental strategies. Broader and more vigorous application of these strategies can prevent health and social problems and save lives.

References

Holder, H. D. (in press). Prevention aimed at the environment. In B. S. McCrady & E. E. Epstein (Eds.), *Addictions: A comprehensive guidebook for practitioners*. Oxford: Oxford University Press.

Rigotti, N. A.; DiFranza, J. R.; Chang, Y.; Tisdale, T.; Kemp, B., & Singer, D. E. (1997). The effect of enforcing tobacco-sales laws on adolescents' access to tobacco and smoking behavior. *New England Journal of Medicine*, 337 (15):1044–1051.

Wagenaar, A. C., & Farrell, S. (1988). Alcohol beverage control policies: Their role in preventing alcohol impaired driving. In Office of the Surgeon General, *Surgeon General's Workshop on Drunk Driving: Background papers* (pp. 1–14). Rockville, MD: Office of the Surgeon General.